

AMENDMENTS TO THE CLAIMS

Without prejudice, please amend the claims as reflected in the following listing of claims, which will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended): An electrode for contacting an electrically conductive surface, ~~in particular for contacting at least one surface of a photovoltaic element (wafer 3), the electrode comprising:~~

~~-an electrically insulating optically transparent film (10);~~

~~an adhesive layer (11) provided on one surface of said film (10);~~ and

~~a first plurality of substantially parallel, electrically conductive wires (5') being embedded into the said adhesive layer (11), a part of the surfaces of said wires (5') protruding from the adhesive layer (11) and at least on said part of the surfaces protruding from the said adhesive layer (11) being covered by a coating (2) consisting of comprising an alloy with (having a low melting point), wherein the wires (5') of the first plurality are electrically connected to to provide for connection of said wires to said electrically conductive surface and to a first terminal bar (20).~~

2. (Currently Amended): ~~The Electrode electrode according to claim 1, wherein a second plurality of wires (5'') substantially running parallel to each other is disposed between the transparent film (10) and the wires (5') of said first plurality, the wires (5', 5'') of the first and second pluralities forming together a mesh (6), and the wires (5'') of the second plurality being electrically connected to a second terminal bar (22)~~further comprising an outer plurality of substantially

parallel wires extending generally perpendicularly to said plurality of wires embedded into said adhesive layer to form a wire mesh and wherein said outer wires are operably configured for connection to a second terminal bar.

3. (Currently Amended): The Electrode-electrode according to claim 2, wherein the said first and second terminal bars (20, 22) are electrically connected to each other.

4. (Currently Amended): The Electrode-electrode according to claim 2, wherein the said terminal bar(s) (20, 22) bars are provided at the respective ends of the said wires (5', 5") embedded into said adhesive layer and said outer wires.

5. (Currently Amended): The Electrode-electrode according to claim 4, wherein the said terminal bar(s) (20, 22) bars are provided adisposed t opposite ends of the wires of the first or of the first and second pluralities of wires (5', 5") outside the a contour of the photovoltaic element (wafer 3), to the surface of which the wires (5', 5") are to be connected.

6. (Withdrawn): Electrode according to claim 2, wherein the first and second terminal bars (20, 22) are connected to form an angle (Fig. 8).

7. (Withdrawn): Electrode according to claim 2, wherein the terminal bars (20, 22) are formed as a U-formed frame, the wires of one of the two pluralities (5') being connected to the base and the wires of the other plurality (5") being connected to the free legs of the U (Fig. 13).

8. (Currently Amended): The Electrode-electrode according to claim 5, characterized in that wherein the said terminal bars (32) are extending over the a length of two adjacent photovoltaic elements (3) to be connected and that a step is provided in their centrea center of said terminal bars, so that a plurality of terminal bars (32) can be fit together forming one row, in which the one half of a

terminal bar (32) is arranged below or above the a lower or upper half, respectively, of the a neighbouring terminal bar (32), and wherein between the terminal bars (32) an insulating film (19) (Fig. 16) is provided between neighbouring terminal bars.

9. (Withdrawn): Electrode according to claim 5, wherein the terminal bars are formed as a closed frame (17), the open area (window) of said frame (17) exceeding the dimensions of the corresponding photovoltaic element (3) (Fig. 9).

10. (Withdrawn): Electrode according to claim 5, wherein the terminal bar(s) is (are) formed as a double frame (17) with two adjacent windows, the open area of which exceeds the dimensions of the corresponding photovoltaic elements (3).

11. (Withdrawn): Electrode according to claim 9, wherein the frame (17) comprises two metallic frames (18) with an insulating film (19) provided between them.

12. (Withdrawn): Electrode according to claim 10, wherein a step is provided in the central bar of the double frame (17), so that a plurality of frames (17) can be fit together forming one row, in which the one half of a double frame (17) is arranged below or above the lower or upper halves, respectively, of the neighbouring double frame (17).

13. (Withdrawn): Electrode according to claim 11, wherein a slot (33) is provided in the central bar of the double frame (28), said slot running parallel to said step, so that upon completion of a PV module the traversing wires (5') of the electrode (16) can be cut.

14. (Withdrawn): Electrode according to any of claim 9, wherein metallic bars (31) are spanning over at least one window of the frame(s), said bars (31) being integrally connected with the corresponding metallic frame (18).

15. (Withdrawn): A plurality of electrodes according to claim 1, wherein the electrodes are formed as an endless, continuous strip, which can be cut to a length corresponding to the length of an array of adjacent photovoltaic elements (3) to be connected for forming a PV module, wherein the wires 5' running in longitudinal direction of the strip are cut at distances corresponding to the distances of the PV cells (Fig. 14).

16. (Withdrawn): Electrode strip according to claim 15, wherein an endless terminal bar (22) is provided along at least one of the edges of the transparent film (10).

17. (Withdrawn): Electrode strip according to claim 16, wherein along each edge of the transparent film (10) are arranged comb-like terminal bars (23), the teeth (25) of which reaching respectively from one side between two adjacent photovoltaic elements (3) over the width of the wires (5') of the first plurality and alternately being in electrical contact with the upper and lower sides of corresponding photovoltaic elements (3) and being isolated from the other surface.

18. (Withdrawn): A PV cell or a PV module comprising at least one electrode (16) or one electrode strip (16) according to claim 1, comprising one or more photovoltaic cells (3) with an electrically conductive, antireflective, optically transparent coating (4) on at least one of its surfaces, the wires (5') of the first plurality being soldered onto the coating (4) and onto the respective terminal bars (20) or terminal frames (17) by means of the alloy (2).

19. (Withdrawn): A PV cell or a PV module according to claim 18 comprising an electrode (16) according to claim 2, wherein the wires (5', 5'') of the first and second pluralities are bonded together at their crossing points and onto the respective terminal bars or terminal frames by means of the alloy (2).

20. (Withdrawn): Electrode according to claim 10, wherein the frame (17) comprises two metallic frames (18) with an insulating film (19) provided between them.

21. (Withdrawn): Electrode according to claim 11, wherein a step is provided in the central bar of the double frame (17), so that a plurality of frames (17) can be fit together forming one row, in which the one half of a double frame (17) is arranged below or above the lower or upper halves, respectively, of the neighbouring double frame (17).

22. (Withdrawn): Electrode according to claim 20, wherein a step is provided in the central bar of the double frame (17), so that a plurality of frames (17) can be fit together forming one row, in which the one half of a double frame (17) is arranged below or above the lower or upper halves, respectively, of the neighboring double frame (17).

23. (Withdrawn): Electrode according to claim 20, wherein a slot (33) is provided in the central bar of the double frame (28), said slot running parallel to said step, so that upon completion of a PV module the traversing wires (5') of the electrode (16) can be cut.

24. (Withdrawn): Electrode according to claim 21, wherein a slot (33) is provided in the central bar of the double frame (28), said slot running parallel to said step, so that upon completion of a PV module the traversing wires (5') of the electrode (16) can be cut.

25. (Withdrawn): Electrode according to claim 22, wherein a slot (33) is provided in the central bar of the double frame (28), said slot running parallel to said step, so that upon completion of a PV module the traversing wire (5') of the electrode (16) can be cut.

26. (Withdrawn): Electrode according to claim 12, wherein a slot (33) is provided in the central bar of the double frame (28), said slot running parallel to said step, so that upon completion of a PV module the traversing wires (5') of the electrode (16) can be cut.

27. (New) The electrode of claim 1 wherein said wires embedded into said adhesive layer extend generally parallel to a longitudinal axis of said film.

28. (New) The electrode of claim 1 wherein said wires embedded into said adhesive layer extend generally perpendicularly to a longitudinal axis of said film.

29. (New) The electrode of claim 2 wherein said outer wires extend generally parallel to a longitudinal axis of said film.

30. (New) The electrode of claim 2 wherein said outer wires are soldered to said wires embedded into said adhesive layer.

31. (New) The electrode of claim 2 wherein said outer wires have portions embedded into said adhesive layer.

32. (New) The electrode of claim 1 wherein said adhesive layer has a thickness less than a thickness of said wires embedded therein.

33. (New) The electrode of claim 1 further comprising a first terminal bar electrically connected to said wires embedded into said adhesive layer and extending transversely to said wires.

34. (New) The electrode of claim 2 further comprising an angularly formed terminal bar, wherein said wires embedded into said adhesive layer are

connected to a first portion of said angularly formed terminal bar and said outer wires are connected to a second portion of said angularly formed terminal bar.

35. (New) The electrode of claim 1 further comprising a terminal bar having a longitudinal portion extending generally parallel to said wires embedded into said adhesive layer and a plurality of spaced apart transverse portions connected to said longitudinal portion and sufficiently spaced apart to receive a photovoltaic element between adjacent transverse portions, said wires embedded into said adhesive layer being connected to said transverse portions.

36. (New) The electrode of claim 1 wherein said film is sufficiently thick to be drawn and to support said adhesive layer and wherein said film is sufficiently thin to have elasticity.

37. (New) The electrode of claim 1 wherein said film has a thickness of between about 10 micrometers to about 50 micrometers.

38. (New) The electrode of claim 1 wherein said coating is on the entire surfaces of said wires operable to contact the electrically conductive surface of the photovoltaic element.